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FILE 'HOME' ENTERED AT 16:36:44 ON 28 SEP 2005

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FILE 'AGRICOLA' ENTERED AT 16:36:53 ON 28 SEP 2005

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FILE 'BIOSIS' ENTERED AT 16:36:53 ON 28 SEP 2005  
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=> s flavanone 3-hydroxylase  
L1 271 FLAVANONE 3-HYDROXYLASE

=> s l1 and (anti-sense or antisense or suppres? or silenc?)  
L2 31 L1 AND (ANTI-SENSE OR ANTISENSE OR SUPPRES? OR SILENC?)

=> dup rem l2  
PROCESSING COMPLETED FOR L2  
L3 24 DUP REM L2 (7 DUPLICATES REMOVED)

=> d 1-10 ti

L3 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Method of breeding plants with yellow flowers by regulating flavonoid biosynthesis system

L3 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Medicago truncatula isoflavone 2'- or 3'-hydroxylase cDNA sequences and use thereof in transgenic plants for flavonoid and isoflavonoid nutraceuticals biosynthesis

L3 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Identification of inhibitors of flavanone 3-hydroxylase expression or activity in plants for screening of herbicides

L3 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Biosynthetic production of flavonoid and isoflavonoid nutraceuticals by genetic manipulation of enzymes in plants

L3 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1  
TI EST analysis of genes involved in secondary metabolism in Camellia sinensis (tea), using suppression subtractive hybridization

L3 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 2  
TI RNase P as a tool for disruption of gene expression in maize cells

L3 ANSWER 7 OF 24 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 3  
TI Proteomic analysis on symbiotic differentiation of mitochondria in soybean nodules.

L3 ANSWER 8 OF 24 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN  
TI Inactivation of DFR (dihydroflavonol 4-reductase) gene transcription results in blockage of anthocyanin production in yellow onions (Allium cepa).

L3 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Method to increase isoflavonoid levels through genetic engineering to modulate to gene expression in phenylpropanoid biosynthetic pathway in transgenic plants

L3 ANSWER 10 OF 24 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN  
TI Plant flavanone-3-hydroxylase.

=> d 3 so

L3 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
SO U.S. Pat. Appl. Publ., 11 pp.  
CODEN: USXXCO

=> d 3 pi

L3	ANSWER 3 OF 24	CAPLUS	COPYRIGHT 2005	ACS on STN		
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
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=> d 4 so

L3 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 SO PCT Int. Appl., 80 pp.  
 CODEN: PIXXD2

=> d 4 pi

L3	ANSWER 4 OF 24	CAPLUS	COPYRIGHT 2005	ACS on STN	
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004024079	A2	20040325	WO 2003-US28454	20030910
	WO 2004024079	C1	20050317		
	WO 2004024079	A3	20050519		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2004128711	A1	20040701	US 2003-659755	20030910
	EP 1555870	A2	20050727	EP 2003-752235	20030910
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

=> d 9 ab

L3 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 AB This invention pertains to methods of increasing isoflavonoid production in isoflavonoid-producing plants by transforming plants with at least one construct expressing at least a portion of a **flavanone 3-hydroxylase**, a C1 myb transcription factor, and an R-type myc transcription factor that regulate expression of genes in the phenylpropanoid pathway. Specifically, isoflavone levels in Glycine max (soybean) are increased via metabolic engineering of the complex phenylpropanoid biosynthetic pathway through **suppression of flavanone 3-hydroxylase (F3H)** to block the anthocyanin branch of the pathway, in combination with expressing C1/R fusion protein CRC to activate other related gene expression. The F3H **suppression vector AC21** contains a portion of FSH gene (**antisense** presumably, not specified, under the control of a seed-specific promoter) that can promote formation of a stem loop structure and thus inhibit F3H gene expression. The CRC vector (pOY135) encodes a fusion protein (under the control of phaseolin promoter) which contain corn C1 myb domain to amino acid 125, the entire coding region of the Lc allele of R, and C1 transcription activation domain (from amino acid 126 to the C-terminus of C1). Higher levels of isoflavones (4-times than wild-type), and decreased genistein and increased the daidzein levels are detected in transgenic soybean seed.

=> d 9 pi

L3	ANSWER 9 OF 24	CAPLUS	COPYRIGHT 2005	ACS on STN	
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003106633	A2	20031224	WO 2003-US18663	20030612
	WO 2003106633	A3	20041007		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,  
 PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,  
 TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,  
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 US 2004006795      A1      20040108      US 2003-459159      20030611

=> d 10 ab

L3 ANSWER 10 OF 24 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on  
 STN  
 AB This invention relates to an isolated nucleic acid fragment encoding a  
**flavanone-3-hydroxylase**. The invention also  
 relates to the construction of a chimeric gene encoding all or a portion  
 of the **flavanone-3-hydroxylase**, in sense or  
**antisense** orientation, wherein expression of the chimeric gene  
 results in production of altered levels of the **flavanone-3-hydroxylase** in a transformed host cell.

=> d 10 pi

L3 ANSWER 10 OF 24 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on  
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 PI US 6570064 20030527

=> d 11-20 ti

L3 ANSWER 11 OF 24 AGRICOLA Compiled and distributed by the National  
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 (2005) on STN      DUPLICATE 4  
 TI Metabolic engineering to increase isoflavone biosynthesis in soybean seed.

L3 ANSWER 12 OF 24 AGRICOLA Compiled and distributed by the National  
 Agricultural Library of the Department of Agriculture of the United States  
 of America. It contains copyrighted materials. All rights reserved.  
 (2005) on STN      DUPLICATE 5  
 TI Modification of flower color and fragrance by **antisense**  
**suppression** of the **flavanone 3-hydroxylase** gene.

L3 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 TI Seed specific promoter of Arabidopsis TT1 gene and method for modifying  
 TT1 gene expression and flavonoid content of plants

L3 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 TI Genetic engineering of agronomic and ornamental traits in carnation

L3 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 TI Transgenic plants and method for transforming carnations

L3 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 TI Method for preparing transgenic plants with reduced **flavanone-3-hydroxylase**  
 activity and enhanced resistance to  
 phytopathogenic fungi and bacteria

L3 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 TI Method for preparing plants with reduced flavanone hydroxylase activity  
 and increased levels of flavonoids and phenolic compounds and use of  
 extracts

L3 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 TI Methods for producing transgenic plants with reduced flavanone hydroxylase

activity and enhanced chemical stress resistance

- L3 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Flavonoid biosynthesis in Gerbera-hybrids: enzymology and genetics
- L3 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Flavanone-3-hydroxylases of soybean and Impatiens balsamina, the genes encoding them and the control of flavonol secondary metabolism

=> d 12 pi

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- L3 ANSWER 12 OF 24 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 5
- SO Molecular breeding : new strategies in plant improvement, 2002. Vol. 9, No. 1. p. 33-41  
Publisher: Dordrecht ; Boston : Kluwer Academic Publishers, c1995-  
CODEN: MOBRFL; ISSN: 1380-3743

=> d 12 so

- L3 ANSWER 12 OF 24 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 5
- SO Molecular breeding : new strategies in plant improvement, 2002. Vol. 9, No. 1. p. 33-41  
Publisher: Dordrecht ; Boston : Kluwer Academic Publishers, c1995-  
CODEN: MOBRFL; ISSN: 1380-3743

=> d 12 ab

- L3 ANSWER 12 OF 24 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 5
- AB Anthocyanins are the major pigments contributing to carnation flower coloration. Most carnation varieties are sterile and hence molecular breeding is an attractive approach to creating novel colors in this commercially important crop. Characterization of anthocyanins in the flowers of the modern carnation cv. Eilat revealed that only the orange pelargonidin accumulates, due to a lack of both flavonoid 3',5'-hydroxylase and flavonoid 3'-hydroxylase activities. To modify flower color in cv. Eilat, we used **antisense suppression** to block the expression of a gene encoding **flavanone 3-hydroxylase**, a key step in the anthocyanin pathway. The transgenic plants exhibited flower color modifications ranging from attenuation to complete loss of their original orange/reddish color. In the latter, only traces of pelargonidin were detected. Dramatic **suppression of flavanone 3-hydroxylase** level/activity in these transgenes was confirmed by northern blot, RT-PCR and enzymatic assays. The new phenotype has been stable for over 4 years of vegetative propagation. Moreover, transgenic plants with severe color modification were more fragrant than control plants. GC-MS headspace analyses revealed that transgenic anti-f3h flowers emit higher levels of methyl benzoate. The possible interrelation between pathways leading to anthocyanin and fragrance production is discussed.

=> d 12 au

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of America. It contains copyrighted materials. All rights reserved.  
(2005) on STN DUPLICATE 5  
AU Zuker, A.; Tzfira, T.; Ben-Meir, H.; Ovadis, M.; Shklarman, E.; Itzhaki,  
H.; Forkmann, G.; Martens, S.; Neta-Sharir, I.; Weiss, D.; Vainstein, A.

=> d 13 ab

L3 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
AB The invention relates to a method for producing a plant with modified gene  
expression comprising the stable integration of the gene TT1 seed-specific  
promoter linked to a desired gene in the genome of plant cells or plant  
tissues, and the regeneration of the resulting plant cells or plant  
tissues to produce plants. The invention also relates to a method for  
producing plants with a modified flavonoid content comprising the stable  
integration of the TT1 gene or cDNA in the genome of plant cells or plant  
tissues, and the regeneration of the resulting plant cells or plant  
tissues to produce plants. Thus, the Arabidopsis thaliana TT1 gene and  
cDNA were cloned and sequenced. Mutation of this gene affected the color  
of the seed coat. The TT1 sequence contained zinc finger-like domains.  
The TT1 protein was localized to the cell nucleus.

=> d 13 pi

L3 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001002590	A2	20010111	WO 2000-DE2233	20000703
WO 2001002590	A3	20010809		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
DE 19930570	A1	20010111	DE 1999-19930570	19990702
CA 2379477	AA	20010111	CA 2000-2379477	20000703
EP 1190081	A2	20020327	EP 2000-958118	20000703
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			

=> d 14 ab

L3 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
AB A review. Genetic engineering of carnation (*Dianthus caryophyllus* L.), which ranks third in the world flower market, is a highly desirable goal for both researchers and com. companies. Recently, we developed a unique and efficient transformation procedure for this cut flower. The main features of this carnation transformation procedure, which has been fully characterized, are its efficiency (ca. 2 transgenes per 10 explants) and suitability to numerous cultivars. The established transformation procedure was used to generate carnations with novel agronomic and ornamental traits. To obtain fungal resistance, transgenic carnation with osmotin, PR-1 and/or chitinase genes were generated. A high level of resistance in these transgenes to a major carnation pathogen (*Fusarium oxysporum* f. sp. *dianthi*, race 2) was demonstrated in greenhouse tests. The rolC gene from *Agrobacterium rhizogenes*, driven by a CaMV 35S promoter, was harnessed to generate carnation plants with improved performance: transgenic lines exhibited dramatically improved rooting ability and production yield (in terms of both number of stem cuttings and number of

flowering stalks per mother plant). Moreover, these traits were stable following 2 yr of greenhouse testing. Interestingly, in carnation, rolC did not lead to the highly neg. traits often ascribed to rol genes. An antisense approach was employed to block the anthocyanin biosynthetic pathway, using the flavanone 3-hydroxylase (fht) gene cloned from carnation; transgenic carnations were generated in an array of colors from a highly com. successful monochromatic variety. Dramatic suppression of fht level/activity in transgenes that had lost their original color was confirmed by northern blot, RT-PCR and enzymic assays. Sensory evaluation tests demonstrated that flowers of these carnation transgenes were also more fragrant than those of control plants. Furthermore, GC-MS analyses of volatiles revealed that the level of the benzoic acid derivative, methylbenzoate, was 10 to 100 times higher in these transgenes than in non-transgenic plants. The levels of analyzed fragrance compds. representing other metabolic pathways (terpenoids and fatty acid derivs.) were not affected in these transgenes. Two years of greenhouse testing have revealed that the transgenic lines are true-to-type and that the traits of interest (color, fragrance) are stable. These results, demonstrating the possibility of diverting metabolic flow from anthocyanins to the production of benzoic acid derivs., reveal an alternative approach to olfactory enhancement of flower fragrance.

=> d 14 so

L3 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 SO Acta Horticulturae (2001), 560(Proceedings of the 4th International Symposium on In Vitro Culture and Horticultural Breeding, 2000), 91-94  
 CODEN: AHORA2; ISSN: 0567-7572

=> d 14 au

L3 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 AU Zuker, A.; Shklarman, E.; Scovel, G.; Ben-Meir, H.; Ovadis, M.; Neta-Sharir, I.; Ben-Yephet, Y.; Weiss, D.; Watad, A.; Vainstein, A.

=> d 15 ab

L3 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
 AB A method of transforming a carnation (Dianthus L.) plant genome with a DNA mol. The method comprises (a) preparing stem explants from carnation cuttings; (b) wounding the explants by microprojectile bombardment; (c) cocultivating the wounded explants with Agrobacterium comprising the DNA mol. under defined conditions of exposure to dark followed by light; (d) excising shoots from the cultivated wounded explants and removing the leaves from the shoots; and (e) culturing the leaves to obtain transgenic shoots transformed with the DNA mol. Also disclosed are a rolC-transgenic carnation with improved agronomic traits and enhancement of flower fragrance by antisense suppression of the flavonoid gene fht.

=> d 15 pi

L3 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000050613	A2	20000831	WO 2000-IL110	20000222
WO 2000050613	A3	20001214		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,

DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

=> d 16 ab

L3 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
AB A method for enhancing the resistance of a plant to phytopathogenic fungi and bacteria comprises reducing the **flavanone-3-hydroxylase** activity by mol. biol. methods, e.g., by expression of an **flavanone-3-hydroxylase antisense** nucleic acid in the plant. Plants with enhanced disease resistance are also disclosed. Thus, tomatoes expressing a fragment of the **flavanone-3-hydroxylase** cDNA in the **antisense** direction was prepared These transgenic plants displayed enhanced resistance to *Clavibacter michiganensis michiganensis* and to *Phytophthora infestans*.

=> d 16 so

L3 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
SO Ger. Offen., 8 pp.  
CODEN: GWXXBX

=> d 16 pi

L3	ANSWER 16 OF 24	CAPLUS	COPYRIGHT 2005 ACS on STN		
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 19927575	A1	20001221	DE 1999-19927575	19990617
	CA 2340329	AA	20001228	CA 2000-2340329	20000607
	WO 2000078981	A1	20001228	WO 2000-EP5259	20000607
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP	1102856	A1	20010530	EP 2000-945715	20000607
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, PT, IE, SI, LT, LV, FI, RO				
BR	2000006873	A	20010807	BR 2000-6873	20000607
TR	200100561	T1	20010821	TR 2001-200100561	20000607
JP	2003505016	T2	20030212	JP 2001-505721	20000607
ZA	2001001327	A	20020218	ZA 2001-1327	20010216

=> d 17 ab

L3 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
AB A method for producing plants with reduced **flavanone-3-hydroxylase** activity by genetic engineering, e.g., using **antisense** technol., is disclosed. These plants contain enhanced levels of flavonoids and phenolic compds. Exts. of such plants may be used in food, food supplements, pharmaceuticals/health products, and cosmetics. Thus, tomato plants with reduced **flavanone-3-hydroxylase** activity were prepared Exts. of these plants were shown to inhibit cholesterol biosynthesis by rat hepatocytes.

=> d 17 so

L3 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
SO Ger. Offen., 8 pp.



=&gt; d 17 pi

L3 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19927574	A1	20001221	DE 1999-19927574	19990617
AU 9946903	A1	20010109	AU 1999-46903	19990618
CA 2340319	AA	20001228	CA 2000-2340319	20000607
WO 2000078980	A1	20001228	WO 2000-EP5257	20000607
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000059704	A5	20010109	AU 2000-59704	20000607
EP 1102855	A1	20010530	EP 2000-945714	20000607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000006869	A	20010807	BR 2000-6869	20000607
JP 2003503032	T2	20030128	JP 2001-505720	20000607
BG 105246	A	20011031	BG 2001-105246	20010213
ZA 2001001328	A	20020218	ZA 2001-1328	20010216

=&gt; d 18 pi

L3 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19927568	A1	20001221	DE 1999-19927568	19990617
CA 2340279	AA	20001228	CA 2000-2340279	20000607
WO 2000078979	A1	20001228	WO 2000-EP5249	20000607
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1102854	A1	20010530	EP 2000-942024	20000607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2003503031	T2	20030128	JP 2001-505719	20000607

=&gt; d 19 ab

L3 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

AB The biosynthetic pathway to anthocyanins, flavones and flavonols is well known. Chemogenetic investigations of Gerbera flowers indicated two blocks at different steps of the pathway leading to acyanic flowers. One block most probably concerns **flavanone 3-hydroxylase** (FHT) and the other dihydroflavonol 4-reductase (DFR). The formation of flavones is assumed to be catalyzed by flavone synthase II (FNS II). Chemogenetic investigations indicated that this step is controlled by a gene named Fns. Up to now, no mutant was found for regulation of the enzyme activity of flavonol synthase (FLS). The formation of cyanidin instead of pelargonidin depends on the activity of the enzyme flavonoid 3'-hydroxylase (F3'H). This hydroxylation reaction is assumed to be controlled by the gene named F3'h. Surprisingly, in some lines the formation of cyanidin was found to be **suppressed** by an as yet not identified dominant factor.

=&gt; d 19 so

L3 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
SO Acta Horticulturae (2000), 508(Proceedings of the Nineteenth International Symposium on Improvement of Ornamental Plants, 1998), 39-44  
CODEN: AHORA2; ISSN: 0567-7572

=> d 20 ab

L3 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
AB Flavanone-3-hydroxylases of soybean and Impatiens balsamina are identified and the genes encoding them are cloned. The genes can be used to alter levels of the enzyme and metabolite flux through the flavonol, anthocyanidin, catechin, and proanthocyanidin pathways of secondary metabolism in plant cells by expressing them from a suitable promoter in sense or antisense orientation.

=> d 20 so

L3 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
SO PCT Int. Appl., 40 pp.  
CODEN: PIXXD2

=> d 20 pi

L3 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9943825	A1	19990902	WO 1999-US3200	19990216
W:	AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9927660	A1	19990915	AU 1999-27660	19990216
BR 9909414	A	20010109	BR 1999-9414	19990216
EP 1066385	A1	20010110	EP 1999-908163	19990216
R:	DE, FR, GB			
US 6570064	B1	20030527	US 2000-645168	20000824

=> d 21-24 ti

L3 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Genes associated with fruit ripening in strawberries and their use in the genetic engineering of ripening characteristics

L3 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Identification of genes encoding EFE in tomato

L3 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Manipulation of condensed tannin biosynthesis in forage legumes

L3 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
TI Flavanone 3-hydroxylase activity in cultured cells of roselle (Hibiscus sabdariffa L.)

=> d 24 ab

L3 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN  
AB The suspension-cultured cells of roselle produced anthocyanin when cultured in a medium containing IAA, whereas the production of anthocyanin was suppressed when the cells were cultured with 2,4-D. The similar activities of flavanone 3-hydroxylase were detected in both anthocyanin-producing and non-producing cells, indicating

that this enzyme is not involved with the regulation of anthocyanin biosynthesis.

=> d 22 ab

L3 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

AB The results presented here clearly show that genes homologous to the pTOM13 cDNA encode the complete EFE (ethylene-forming enzyme) in tomato. Previous expts. on EFE have led to the conclusion that it required intact membranes for activity (Yang, 1985) however the predicted structure of any of the three polypeptides encoded by the three pTOM13-homologous genes from tomato strongly suggest that EFE is located in the cytosol. The above evidence which suggests that EFE is a hydroxylase has prompted other investigators to try to purify EFE using techniques which previously had been used to successfully extract flavanone-3-hydroxylase. Both Ververidis and John (1991) and Fernandez-Maculet and Yang (1992) have now successfully extracted EFE in a soluble form. The latter group have suggested that the previously observed requirement for membrane integrity was a result of their sequestration of iron and ascorbate (required by EFE for activity) and the loose binding of EFE to these membranes during cell disruption. The antisense results demonstrate the usefulness of this simple technique both for the identification of gene function and for the creation of novel phenotypes. The ability to express pTOM13 homologous genes in Saccharomyces cerevisiae will allow the detailed anal. of the EFE protein by site directed mutagenesis. It should also allow the biochem. discrimination between the three different EFEs present in tomato. Finally, the anal. of the DNA or RNA sequences which control the expression of EFE will lead to the identification of the factors and events which trigger the onset of ethylene biosynthesis.

=> dis his

(FILE 'HOME' ENTERED AT 16:36:44 ON 28 SEP 2005)

FILE 'AGRICOLA, CAPLUS, BIOSIS' ENTERED AT 16:36:53 ON 28 SEP 2005

L1 271 S FLAVANONE 3-HYDROXYLASE

L2 31 S L1 AND (ANTI-SENSE OR ANTISENSE OR SUPPRES? OR SILENC?)

L3 24 DUP REM L2 (7 DUPLICATES REMOVED)

=> s l1 and (fragrance or odor or smell)

L4 5 L1 AND (FRAGRANCE OR ODOR OR SMELL)

=> dup rem l4

PROCESSING COMPLETED FOR L4

L5 3 DUP REM L4 (2 DUPLICATES REMOVED)

=> d 1-3 ti

L5 ANSWER 1 OF 3 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 1

TI Modification of flower color and fragrance by antisense suppression of the flavanone 3-hydroxylase gene.

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

TI Genetic engineering of agronomic and ornamental traits in carnation

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

TI Transgenic plants and method for transforming carnations

=> d pi

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DUPLICATE 1

TI Modification of flower color and fragrance by antisense suppression of the flavanone 3-hydroxylase gene.

=> d so

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DUPLICATE 1

S0 Molecular breeding : new strategies in plant improvement, 2002. Vol. 9, No. 1. p. 33-41

Publisher: Dordrecht ; Boston : Kluwer Academic Publishers, c1995-

CODEN: MOBRFL; ISSN: 1380-3743

=> d 2 pi

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

=> d 2 so

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

S0 Acta Horticulturae (2001), 560(Proceedings of the 4th International Symposium on In Vitro Culture and Horticultural Breeding, 2000), 91-94  
CODEN: AHORA2; ISSN: 0567-7572

=> d 3 pi

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000050613	A2	20000831	WO 2000-IL110	20000222
WO 2000050613	A3	20001214		
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

=> s ((vainstein a?) or (vainstein, a?))/au

L6 174 ((VAINSTEIN A?) OR (VAINSTEIN, A?))/AU

=> s l6 and flavanone 3-hydroxylase

L7 5 L6 AND FLAVANONE 3-HYDROXYLASE

```

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8      3 DUP REM L7 (2 DUPLICATES REMOVED)

=> d 1-3 ti

L8      ANSWER 1 OF 3  AGRICOLA  Compiled and distributed by the National
      Agricultural Library of the Department of Agriculture of the United States
      of America. It contains copyrighted materials. All rights reserved.
      (2005) on STN                                     DUPLICATE 1
TI      Modification of flower color and fragrance by antisense suppression of the
      flavanone 3-hydroxylase gene.

L8      ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2005 ACS on STN
TI      Genetic engineering of agronomic and ornamental traits in carnation

L8      ANSWER 3 OF 3  CAPLUS  COPYRIGHT 2005 ACS on STN
TI      Transgenic plants and method for transforming carnations

=> s ((zucker a?) or (zucker, a?))/au
L9      126 ((ZUKER A?) OR (ZUKER, A?))/AU

=> s l9and flavanone 3-hydroxylase
L10     0 L9AND FLAVANONE 3-HYDROXYLASE

=> s ((ovadis m?) or (ovadis, m?))/au
L11     87 ((OVADIS M?) OR (OVADIS, M?))/AU

=> s l9 and flavanone 3-hydroxylase
L12     5 L9 AND FLAVANONE 3-HYDROXYLASE

=> dup rem l12
PROCESSING COMPLETED FOR L12
L13     3 DUP REM L12 (2 DUPLICATES REMOVED)

=> d 1-3 ti

L13     ANSWER 1 OF 3  AGRICOLA  Compiled and distributed by the National
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      of America. It contains copyrighted materials. All rights reserved.
      (2005) on STN                                     DUPLICATE 1
TI      Modification of flower color and fragrance by antisense suppression of the
      flavanone 3-hydroxylase gene.

L13     ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2005 ACS on STN
TI      Genetic engineering of agronomic and ornamental traits in carnation

L13     ANSWER 3 OF 3  CAPLUS  COPYRIGHT 2005 ACS on STN
TI      Transgenic plants and method for transforming carnations

=> s l11 and flavanone 3-hydroxylase
L14     5 L11 AND FLAVANONE 3-HYDROXYLASE

=> dup rem l14
PROCESSING COMPLETED FOR L14
L15     3 DUP REM L14 (2 DUPLICATES REMOVED)

=> d 1-3 ti

L15     ANSWER 1 OF 3  AGRICOLA  Compiled and distributed by the National
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      (2005) on STN                                     DUPLICATE 1
TI      Modification of flower color and fragrance by antisense suppression of the
      flavanone 3-hydroxylase gene.

L15     ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2005 ACS on STN

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TI Genetic engineering of agronomic and ornamental traits in carnation

L15 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

TI Transgenic plants and method for transforming carnations

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		<i>DB=PGPB,USPT; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L7	L6 and (fragrance or odor or smell)	3
<input type="checkbox"/>	L6	L5 and (antisense or anti-sense or suppress\$)	20
<input type="checkbox"/>	L5	l2 and carnation	21
<input type="checkbox"/>	L4	L3 and (fragrance or smell or odor)	9
<input type="checkbox"/>	L3	L2 and (antisense or anti-sense)	38
<input type="checkbox"/>	L2	flavanone 3-hydroxylase	43
<input type="checkbox"/>	L1	flavonone 3-hydroxylase	1

END OF SEARCH HISTORY